Selected descriptions in the body of 96-325 FCC Interconnection Order in CC docket No. 96-98:

356. We confirm our tentative conclusion in the NPRM that section 251(c)(3) permits interexchange carriers and all other requesting carriers, to purchase unbundled elements for the purposes of offering exchange access services, or for the purpose of providing exchange access services to themselves in order to provide interexchange services to consumers. Although we conclude below that we have discretion under the 1934 Act, as amended by the 1996 Act, to adopt a limited, transitional plan to address public policy concerns raised by the bypass of access charges via unbundled elements, we believe that our interpretation of section 251(c)(3) in the NPRM, is compelled by the plain language of the 1996 Act. As we observed in the NPRM, Section 251(c)(3) provides that requesting telecommunications carriers may seek access to unbundled elements to provide a "telecommunications service" and exchange access and interexchange services are telecommunications services. Moreover, section 251(c)(3) does not impose restrictions on the ability of requesting carriers to "combine such elements in order to provide such telecommunication service(s)." Thus, we find that there is no statutory basis upon which we could reach a different conclusion for the long term.

...

412. We define the local switching element to encompass line-side and trunk-side facilities plus the features, functions, and capabilities of the switch. The line-side facilities include the connection between a loop termination at, for example, a main distribution frame (MDF), and a switch line card. Trunk-side facilities include the connection between, for example, trunk termination at a trunk-side cross connect panel and a trunk card. The "features, functions, and capabilities of the switch include the basic switching function of connecting lines to lines, lines to trunks, trunks to lines, trunks to trunks. It also includes the same basic capabilities that are available to the incumbent LEC's customers, such as telephone number, directory listing, dial tone, signaling, and access to 911, operator services, and directory assistance. In addition, the local switching element includes all vertical features that the switch is capable of providing, including custom calling, CLASS features, and CENTREX, as well as any technically feasible customized routing functions. Thus, when a requesting carrier purchases the local switching element, it obtains all switching features in a single element on a per-line basis. A requesting carrier will deploy individual vertical features on its customers' lines by designating, via an electronic ordering interface, which features the incumbent LEC is to activate for particular customer lines.

...

579. We believe that section 251(c)(6) generally requires that incumbent LECs permit the collocation of equipment used for interconnection or access to unbundled network elements. Although the term "necessary," read most strictly, could be interpreted to mean "indispensable" we conclude that for purposes of section 251(c)(6) "necessary" does not mean "indispensable" but rather "used" or "useful." ... Even if the

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collocator could use other equipment to perform a similar function, the specified equipment may still be "necessary" for interconnection or access to unbundled network elements under section 251(c)(6). We can easily imagine circumstances, for instance, in which alternative equipment would perform the same function, but with less efficiency or at a greater cost. . . .

. . .

581. At this time, we do not impose a general requirement that switching equipment be collocated since it does not appear that it is used for the actual interconnection or access to unbundled network elements. We recognize, however, that modern technology has tended to blur the line between switching equipment and multiplexing equipment, which we permit to be collocated. We expect, in situations where the functionality of a piece of equipment is in dispute, that state commissions will determine whether the equipment at issue is actually used for interconnection or access to unbundled elements. We also reserve the right to reexamine this issue at a later date if it appears that such action would further achievement of the 1996 Act's procompetitive goals. . . .

Notice of Proposed Rulemaking CC Docket No. 96-262, Access Charge Reform, paragraph 170

...Unbundled elements provide a ubiquitous substitute for access service. Where access charges exceed forward-looking economic cost (due to the structure or level of access being inefficient), IXCs have an artificial incentive to 'win' the customer and provide both local and toll service using unbundled elements. We expect that availability of unbundled elements at TELRIC prices as a substitute for access charges will ultimately require the LEC to set its charges in an economically efficient manner....

Selected sections of the FCC Order on Reconsideration, adopted September 27, 1997 (pricing rules are stayed but interconnection rules are not stayed)

1. ... Pursuant to section 1.08 of the Commission's rules, we here reconsider on our own motion two specific issues addressed in the First Report and Order. We expect that parties may raise other issues in petitions for reconsideration. First, we establish a flat-rated default proxy range for the non-traffic sensitive costs of basic residential and business line ports associated with the unbundled local switching element. ... Second, we clarify that because the First Report and Order concluded that the local switching element includes dedicated facilities, the requesting carrier is thereby effectively precluded from using unbundled switching to substitute for switched access services where the loop is used to provide both exchange access to the requesting carrier and local service by the incumbent LEC. ...

2. Background ... We concluded in the First Report and Order that "A combination of a flat-rated charge for line ports, which are dedicated to a single new entrant and either a flat-rated or per-minute charge for the switching matrix and for trunk ports which constitute shared facilities, best reflects the way costs for unbundled local switching are incurred and is therefore reasonable." We remain convinced that the pricing methodology and rate structures established

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in the First Report and Order are correct and should be implemented by state commissions in arbitration proceedings.

...

4. We now reconsider on our own motion a limited aspect of that decision and establish a default proxy range for basic residential and business line port costs of the local switching elements. We see no reason at this time to revise the default proxy range for unbundled local switching that will apply to the traffic-sensitive element, including the switching matrix, the functionalities used to provide vertical features and the trunk ports. Moreover, we find no basis at this time for modifying the default proxy range for the termination of calls.

...

6. The data support the default proxy we established for the termination portion of transport and termination ... because we found that the "additional cost" to the incumbent LEC of terminating a call that originates on another network includes only the usage sensitive costs, including the switching matrix and the trunk ports, but not the non-traffic-sensitive costs of local loops and line ports associated with the local loops. ...

...

11. In section V.I.2. of the First Report and Order, we stated that "when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single element on a per-line basis." The unbundled switching element, as defined in the First Report and Order, includes the line card, which is often dedicated to a particular customer. Thus, a carrier that purchases the unbundled local switching element to serve an end user effectively obtains the exclusive right to provide all features, functions, and capabilities of the switch, including switching for exchange access and local exchange service for that end user. A practical consequence of this determination is that the carrier that purchases the local switching element is likely to provide all available services requested by the customer served by that switching element, including switching for local exchange and exchange access. We further note that the pricing methodology set forth in the First Report and Order for the unbundled switching element, included cost of components (e.g., line ports) necessary to provide switching for both local exchange and exchange access services, and contemplated that the carrier purchasing the unbundled switch would provide switching for both local exchange and exchange access services. (references to paragraphs 412, 414, 423 of First Report and Order)

...

13. We thus make clear that, as a practical matter, a carrier that purchases an unbundled switching element will not be able to provide solely interexchange service or solely access service to an interexchange carrier. A requesting carrier that purchases an unbundled local switching element for an end user may not use that switching element to provide interexchange service to end users for whom that requesting carrier does not also provide local exchange service. Using unbundled switching elements in such a manner would be inconsistent with our statement in the First Report and Order that "a competing provider orders the unbundled basic switching element for a particular customer line..." (references paragraph 414 of First Report and Order)

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**1. Dark fiber**

The FCC in its Interconnection Order declined to address the issue of dark fiber as it did not have sufficient information to determine whether dark fiber qualifies as a network element. (para. 450) In addition, the Act defines a network element to be a facility or equipment used in the provision of telephone exchange access or exchange access. The Commission considered several factors in arriving at its decision to require dark fiber to be offered on an unbundled basis. Ameritech asserts that the lack of electronics means that dark fiber is not used in providing telecommunications service. However, an analogy can be made to local loops which are in place but are not yet hooked up to serve a customer premises; these are considered to be available in providing telecommunications services. Dark fiber is capacity to accommodate expected growth in the same sense that extra loops are capacity to accommodate expected growth. Accordingly, dark fiber is used in the provision of telecommunications service and therefore is a network element and should be unbundled and made available.

In its March 3, 1997, Statement, Ameritech did not offer dark fiber. Ameritech revised its filing on March 26, 1997, to offer dark fiber and provided a price list for such dark fiber. AT&T and MCI allege the offering is discriminatory and raise concerns regarding the limitations Ameritech places on when it will offer dark fiber and whether or not it will continue to offer dark fiber. Further concerns were expressed by the parties regarding the definition of critical terms and the prices at which dark fiber is offered. These allegations and concerns taken together are convincing that Ameritech's offering of dark fiber is inadequate to qualify as the offering of an unbundled element. While the tariff will remain in place as an offering, a future filing of the Statement should bolster the dependability and predictability of the offering. Further,

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Ameritech's pricing of dark fiber has not been adequately reviewed thus far in this proceeding, so it will need to be addressed in a future filing.

**2. Common transport**

This Commission has determined that Ameritech's offering of unbundled local switching and unbundled local transport does not provide the degree of unbundling that the FCC Interconnection Order describes and requires in its rules. The degree of unbundling required is the functionality of interoffice transport on either a per customer line basis or per minute of use basis. (47 CFR 51.307(d), and Interconnection Order, paragraphs 412, 414, and 423, customer line basis; paragraphs 258 and 428, minute of use basis). Ameritech's proposal also requires that competitors specify the routing code and route for each common transport link. The limited degree of unbundling and requirements that the routes be defined in advance result in unreasonable restrictions on the combination of unbundled elements in violation of § 251(c)(3) and does not provide transport unbundled from local switching as required by checklist requirement (v). The Commission requires that Ameritech offer common transport to correct these deficiencies before a Statement will be approved. The Commission definition of common transport is given below.

In Ameritech's March 3, 1997, Statement, the offerings require that dedicated trunk ports sized by DS-1, DS-3, OC-3 to OC-48 be purchased and combined with dedicated transport sold in mileage increments of the same size denominations and tandem transport termination of the same size denominations to provide unbundled transport between Ameritech's central office switches and Ameritech's tandem switches (consisting of a path and terminations on either end,

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local office and tandem). Ameritech's March 3, 1997, filing also included a "shared company transport" in which the mileage rate elements could be purchased in denominations of 1/24 of a DS-1, but the termination facilities are offered only in the above stated full denominations or, when on a minute-of-use basis, based on Ameritech's existing access rates. Ameritech later revised the local office trunk ports to be offered in 1/24 of a DS-1 size denomination, but still required the tandem transport termination to be sold in the full size denominations stated.

Ameritech's offering of unbundled local switching does not provide unbundled switching on a per customer line basis as the FCC Interconnection Order describes at 412, 414, and 423 or on a minute of use basis as described at paragraphs 258 and 428. The FCC interconnection order defines the unbundled switching element as the line card (line-side port), the switching matrix, and the trunk ports (transport-side port). (at para. 412) The degree of unbundling is described in the following statement, "Thus, when a requesting carrier purchases the unbundled local switching element, it obtains all switching features in a single element on a per-line basis. (at para. 412) Paragraph 414 describes a line as a "particular customer line." Ameritech's March 3, 1997, Statement, included a line-side port on a per customer basis, and the switching matrix on a minute of use basis, but included the transport-side port only on a DS-1, DS-3, OC-3 to OC-48 basis.

A DS-1 port consists of 24 channels. A single transport channel can serve many voice lines. This is because all voice lines are not in simultaneous use for a full hour during the system busy hour. Telecommunications systems are designed to have many voice lines served by a single transport channel based on expected calling patterns. If too many voice lines feed into a

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single transport channel, such that a busy hour call cannot be handled, the end user receives a fast busy signal for such a blocked call.

Ameritech on March 19, 1997, revised its offering to include a fractional DS-1 trunk port, with the DS-1 port cost divided into 24 line channels. This offering is not on a per customer-line basis. At a minimum, to reflect a per customer-line basis, the cost of the 1/24 of a DS-1 port should be divided over the number of customer lines a single channel of the DS-1 port is generally engineered to serve. To provide a transport-side port on a per customer-line basis with the same efficiency of Ameritech's network, the costs of a single channel of the average size port should be divided over the average number of customer lines a single channel can service.

Ameritech's minute-of-use offering does not provide unbundled transport either. Ameritech's minute of use offering is an access retail service The pricing of access does not comply with the pricing rules, § 252(d) of the Act and, therefore, cannot fulfill the requirement to provide unbundled transport.

In the April 2 and 3, 1997, hearings, Ameritech provided explanations as to how it felt its offering met the requirement of providing unbundled transport. Ameritech identifies a network element, as defined in the Act, as "facilities or equipment" and therefore concludes that a requesting carrier must designate a discrete facility or equipment, in advance, for a period of time. It asserts that a carrier cannot purchase undifferentiated access to network capabilities and claims undifferentiated access is a service and not a network element. In fact, what Ameritech is offering is only the least efficient facilities (DS-1) on a per channel basis. More efficient facilities like DS-3 or OC-*X*s are not even sold on a fractional basis let alone a customer basis. With a discrete facility offering, competing carriers should be able to specify DS-3 service in a

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1/674 fraction and the like for the various OC facilities. Again, a per-customer offering would provide even smaller increments of each of these discrete facilities than would a per-channel offering.

The higher denominations of transport provide economies of scale. For example 1/24 of the DS-1 mileage rate is $.65 ($15.69/24) while 1/672 of the DS-3 mileage rate is $.05 ($36.20/672). Ameritech does not use a discreet facility requirement, it uses a requirement that only DS-1 facilities will be provided on a fractional basis.

In fact, for other than the DS-1 facilities, Ameritech only offers the same size denominations of transport that a competing provider would need to buy if it were seeking to compete using its own facilities instead of unbundled elements. The terms DS-1, DS-3, and various OC-Xs refer to sizes of complete facilities. In effect, competing carriers are expected to build their own networks; only their networks would be built from buying facilities-sized unbundled elements instead of just buying facilities.

Multiple separate networks will not be able to achieve the same efficiencies as Ameritech's network. Traffic that could be concentrated on a DS-3 facility would instead be transported over multiple DS-1 facilities and the like for OC facilities. This is not consistent with the FCC descriptions in the Interconnection Order. Paragraph 441 states, "An efficient new entrant might not be able to compete if it were required to build interoffice facilities where it would be more efficient to use the incumbent LEC's facilities." As will be described below, the FCC recognized this concern and required access to the functionality of interoffice transport. Using this terminology preserves the efficiency of the interoffice transport network as will be described in greater detail below.

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Ameritech asserts that transport on a per customer basis is a service and not an unbundled element. The FCC Interconnection Order refers to services versus elements in its discussion of common costs. Specifically, the FCC wanted to avoid pricing facilities in a manner that would treat facilities as common to multiple services like interstate access service and local exchange service which would require an allocation of the cost of a facility between services (at 678). The services that are referred to are retail services. Ameritech attempts to claim that the efficiency of its transport network represents a service. However, the interoffice transport network is one portion of a number of retail services including local exchange service, or exchange access service. While the Interconnection Order refers to services and elements, there are no references in the Interconnection Order where the interoffice transport network is referred to as a service. The Interconnection Order does refer to interoffice transport as a functionality, which will be discussed in greater detail below.

Ameritech asserts that there should be risk to a new entrant that it may not be able to achieve sufficient demand when it purchases unbundled transport and supports its assertion with a reference to paragraph 334 of the Interconnection Order. However, the context of that reference is entirely different from the instant situation. That paragraph refers to risk that end-user customers will not demand a sufficient number of services. An example would be end-users' demand for services like vertical features of call waiting or call forwarding provided through the use of the unbundled line card. Paragraph 441, which specifically refers to unbundled transport, gives the explanation that competing carriers are not expected to duplicate Ameritech's transport network.

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The FCC identifies how it views the unbundling of the transport functionality in paragraph 258, which says, "Carriers seeking other elements, especially shared facilities such as common transport, are essentially purchasing access to a functionality of the incumbent's facilities on a minute-by-minute basis. Paragraph 444 states that the FCC does not require physical partitioning of a particular piece of transport equipment, but instead permits competitors to use the functionality in the same manner that incumbent LECs now permit IXCs to use such functionality, which is on a minute of use basis. The concept of functionality is codified in the following rule: "An incumbent LEC shall provide a requesting telecommunications carrier access to the facility or functionality of a requested network element separate from access to the facility or functionality of other network elements, for a separate charge." (47CFR § 51.307(d)) In the context of the narrative of the Interconnection Order, it is reasonable to interpret this as meaning that access to facilities is provided where facilities are dedicated to a single end user and access to functionalities is provided where facilities are shared among more than one end user.

In rebuttal testimony, Ameritech characterizes just such access to the functionality of Ameritech's more efficient network as a risk free "virtual partnership" and a "sweetheart deal." Ameritech claims it saddles the incumbent with the ownership and operation of a multibillion dollar network, while new entrants would not need to invest a single capital dollar. However, Ameritech's complaint is applicable to the provision of any unbundled network elements. The Act, in making it a duty for incumbent LECs to provide unbundled network elements, determined that new entrants would be able to purchase the use of Ameritech's network on an unbundled basis without the investment of any capital dollars. The cost of the unbundled elements includes a return which fully compensates Ameritech for the investment of its capital. Unbundling is the

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action the Act determined was required to open local markets to competition. It is unreasonable for Ameritech to define network elements in a way that provides only two means of competing with Ameritech, resale and facilities-based competition and to define unbundling in a way that provides no meaningful difference from facilities-based competition.

The Act clearly spells out three means of competition: (1) resale, (2) unbundled network elements and (3) facilities-based competition. The Act clearly provides two ways to use the incumbent's networks: (1) unbundled network elements based on cost and (2) resale based on a discount off of the retail price. Providing unbundled network elements in addition to resold serves a couple of important purposes. One is that it provides a competitive restraint on incumbents' retail rates. With unbundled network elements priced based on cost, if Ameritech raises its retail rates excessively, competitors can chose to purchase unbundled elements and charge lower rates. In rural areas where facilities-based competition will be inefficient, unbundled network elements will serve as an important restraint on retail rate increases. Ameritech's arguments that rebundling unbundled network elements is the same as resale is a disguised attempt to eliminate a useful restraint against its own unilateral ability to raise retail rates.

In addition, unbundled network elements can also be used to provide multiple retail services in different proportions than Ameritech provides retail services. The unbundled network elements used in providing local service are also used to provide the other retail services of exchange access and vertical features like call forwarding. If new entrants choose to make greater use of facilities than Ameritech, such as providing more vertical features, then they can do so using unbundled network elements. The availability of unbundled network elements

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encourages more efficient use of facilities or offering new services with existing facilities. However, if providers just want to match Ameritech's offering, resale is available.

Ameritech is capable of computing the cost of transport on a per customer or per minute of use basis. Ameritech makes this computation in calculating the cost of reciprocal compensation which entails both switching and transport for terminating its competitor's calls. Ameritech uses capacity costing in that calculation. Capacity costing explains that if a facility is purchased which will exhaust, meaning its utilization will increase over time from one unit to the maximum units it can serve, then the cost of the facility can be equally assigned based on the capacity of the equipment. The addition of each customer pushes forward the time that an additional facility will need to be put into service. The costs can then be broken down on a customer demand basis. The limits Ameritech has applied (such as channels of fractions of channels) to the degree to which costs can be divided are not necessary or desirable. Cost can be divided by each unit of demand.

The FCC describes trunk ports as usage sensitive costs. (para. 799-814, September 27, 1997, Order on Reconsideration, at 6) "Usage sensitive" is another means of saying the facility fills to capacity and additional units are added based on demand. It is reasonable to interpret that the FCC's reference to costs as usage sensitive indicates that the costs can be divided by each unit of demand.

Unbundling on a per customer line or per minute basis is a reasonable degree of unbundling to require. It is consistent with the Wisconsin statutory definition of "basic network function," s. 196.015(1), Wis. Stats. "Basic network function" is defined as "the smallest disaggregation of local exchange transport, switching, and loop functions that is capable of being

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separately listed in a tariff and offered for sale." Accordingly, there is no federal or state support basis for approving only the limited extent of unbundling that Ameritech does offer.

There is a pervasive consistency of logic to requiring transport to be unbundled to the level of minutes of use or per customer line. These are the units in which Ameritech sells to its end users. They are the smallest units into which Ameritech is capable of disaggregating its costs. They are the units in which the FCC describes the transport functionality. They are the units that provide the greatest usefulness for unbundled network elements. Therefore, it is reasonable to require the extent of unbundling should be a per line or per minute of use basis.

There should be consistency of the units in which unbundled elements are offered between different unbundled elements. Unbundled trunk ports on a per customer-line basis are of limited usefulness to competing providers when other interoffice transport elements are not offer a per customer-line basis. The FCC defined the trunk port as part of unbundled local switching but it must be combined with other transport elements to provide unbundled transport. It is a barrier to combining unbundled elements if the units in which local transport are offered do not match the units in which unbundled switching are offered. Ameritech's offering of transport in such sized increments represents an unreasonable restriction on combining unbundled elements. Incumbent LECs are required to provide unbundled elements in a manner that allows requesting carriers to recombine such elements and may impose only reasonable terms and conditions per § 251(c )(3).

In effect, such a mismatch in sizes makes the purchase of transport contingent upon obtaining aggregates of unbundled loops and unbundled switching. This does not meet the requirement to provide transport unbundled from local switching as required by checklist

requirement (v). Ameritech also places restrictions on whether unbundled local switching is even available dependent upon the purchase of additional trunk groups. This will be further discussed in issue 6 of this section, "Provider of exchange access services." Making the purchase of switching contingent upon the purchase of transport violates the requirement to provide transport unbundled from switching.

In summary, the following is what this Commission means in its requirement that Ameritech must offer common transport. One meaning is that unbundled transport should be offered in a manner that corresponds to the rate structure for interstate access transport, but with rates based on costs. This means that all transport elements are offered on a minute of use basis. In this way a single customer can be served through combining unbundled network elements by purchasing only the transport minutes of use that customer generates.

However, the FCC also provides in paragraph 810, (stayed pricing rule) that a "combination of a flat-rated charge for line ports, which are dedicated to a single new entrant and either a flat-rate or per minute usage charge for the switching matrix and for trunk ports, which constitute shared facilities, best reflects the way costs for unbundled local switching are incurred and is therefore reasonable." In a like manner, the interoffice mileage and tandem termination are also shared facilities. Accordingly, an option for common transport on a flat-rated basis will be allowed. Flat-rated common transport shall offer all transport rate elements on a end user customer-line basis.

Ameritech's current common transport proposal requires providers to couple the transport with dedicated ports on each end. Each link of common transport is therefore route specific, and must be designated in the competitor's custom routing tables. Common transport, in the access

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environment, does not have this type of restriction. Instead, common access transport can be used to transport calls at times when a provider's dedicated facilities are at capacity. In such cases, the calls carried over common access transport are routed according to Ameritech routing tables, until those calls reach the tandem or toll provider's point of presence. Likewise, to provide reasonable terms, with the efficiency of Ameritech's network, Ameritech's unbundled common transport must also use Ameritech's routing tables, and flow through Ameritech ports, instead of requiring unbundled ports and predefined routes. Common transport should not be route specific.

Ameritech included a provision in its common transport option that competitors cannot have more than 23 channels worth of common transport over a particular route. Ameritech is imposing terms such that competitors could not rely solely on common transport when the provider has enough traffic to justify dedicated transport. While this is a reasonable concern, the solution would require dedicated ports and would prevent a competitors' customers from completing calls when its network exceeds its normal capacity. This restriction prevents competitors from using common transport to handle true overflow situations. Such an outcome is not reasonable. Instead, Ameritech should develop an additional charge which applies when the competitor exceeds dedicated transport capacity, along the lines of the FGD blocking charge in the access tariff. Such a surcharge would provide a financial incentive for providers to avoid excessive peak capacity overflow onto unbundled common transport. If Ameritech wishes to impose such an overflow surcharge, it must file the tariff change along with cost support and justification. This tariff would be subject to Commission review in any refiling of the Statement

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The FCC rules require that dedicated transport be offerred as well as shared transport (herein called common transport) per § 51.319(d)(1). The tariffs offered by Ameritech for DS-1, DS-3 and various OCs with dedicated ports, and mileage charges meet this requirement. It is reasonable to require that some form of dedicated transport (unbundled or facilities) be used when the nature of the traffic must be identified. This order adopts the use of dedicated ports to identify toll traffic under item number 6, Provider of Exchange Access Service below. Common transport by defintion does not include dedicated ports, so it is reasonable to limit the use of common transport to the transport of local calls. If the definition of the provider of access is revisited at a future point in time, it would be reasonable to revisit this limitation as well.

Therefore, it is reasonable to require that Ameritech offer common transport, with transport defined as having the same efficiency as Ameritech's transport network, on a per-customer-line basis or a per-minute-of-use basis. The Commission finds this is the unbundled transport necessary to comply with § 251 and § 252(d), and the regulations thereunder. If future FCC action on reconsideration preempts state authority and requires a different definition of unbundled transport, the Commission will revisit this issue..

### 3. Customized routing functions

When an Ameritech customer places a call, that call is routed according to Ameritech's routing table. Calls to customers served by the same switch are connected to the called party's port. Calls within the same calling area are routed to the appropriate interexchange trunk port, and then on to trunks leading to the correct switch. Calls covering longer distances are routed over trunks leading to the tandem switch, or to toll providers' points of presence. All of this is controlled by Ameritech's routing tables.

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If competitors use their own transport networks, they will need routing tables to route calls onto those networks. Ameritech has referred to the creation of such routing tables as "customized routing." In its initial filing, Ameritech proposed making customized routing available only through the *bona fide* request process.

In its first order, the Commission determined that customized routing was a standard part of unbundled service, and should therefore be available without a *bona fide* request process. In its March 3, 1997, filing, Ameritech has complied with this requirement.

No objection was raised regarding the pricing of customized routing service, so it is presumed reasonable at this time. Further review of the pricing and costing may be appropriate in a future filing of the Statement.

**4. Vertical features**

The FCC rules require an incumbent LEC to provide access to unbundled elements along with all of the unbundled network element's features functions and capabilities, in a manner that allows the requesting carrier to "provide any telecommunications service that can be offered by means of that network element." (47 CFR § 51.307(c)) Ameritech's original offerings provided only that it will make available those features Ameritech offers to its own customers. Ameritech's offering makes other vertical features available, but only through the BFR process. In purchasing unbundled local switching, a competing carrier has already paid the cost of all vertical features the switch is capable of offering. The BFR process creates excessive delays in accessing those features -- delays that would not be required in all situations. Therefore, in its February 20, 1997, oral decision the Commission concluded that vertical features, including

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those not currently offered by Ameritech, must be made generally available without a BFR process.

In its March 3, 1997, Statement, Ameritech replaced the BFR process with a Switch Feature Request process which provides a response in no more than 60 days instead of the maximum 120 days under a BFR. In comments, Ameritech asserts that the process is necessary because network personnel need time to determine if the software is loaded on the switch. If the software is loaded it would still need to be tested to determine if it can function without affecting other existing switch features. Ameritech would also need to determine if right to use fees would be required by the switch vendor to activate the feature.

While AT&T alleges the process is still BFR under the tariff, the most recent filing simply imposes a maximum 60 day request period for implementation of a switch feature request. This revision makes the full features of the switch available to the CLECs in a nondiscriminatory manner relative to Ameritech's own internal processes for activation of switch features. What is missing from the offering is the provision of adequate information for a potential requester to do an independent prior evaluation of the cost and ease of addition of switch features. This tariff offering should clearly state that a customer of Ameritech's unbundled switching service shall be supplied with access to the list of features for each of its switches, the status of the feature, and adequate information on the applicable right to use fees.

No objection was raised regarding the pricing of filling switch feature request orders, so it is presumed reasonable at this time. Further review of the pricing and costing may be appropriate once the above switch feature information is made available for parties to do an independent analysis of the effect of the pricing.

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## 5. Collocation of remote switching modules

Relevant Provisions of the Act

§ 271(c)(2)(B) Competitive Checklist.

(i) Interconnection in accordance with the requirements of §§ 251(c)(2) and 252(d)(1)

(x) Nondiscriminatory access to databases and associated signaling necessary for call routing.

§ 251(c)(2) Interconnection.

-- The duty to provide, for the facilities and equipment of any requesting telecommunications carrier, interconnection with the local exchange carrier's network--

(A) for the transmission and routing of telephone exchange service and exchange access;

(B) at any technically feasible point within the carrier's network;

(C) that is at least equal in quality to that provided by the local exchange carrier to itself or to any subsidiary, affiliate or any other party to which the carrier provides interconnection; and

(D) on rates, terms, and conditions that are just, reasonable and nondiscriminatory, in accordance with the terms and conditions of the agreement and the requirements of this section and section 252.

§ 251(c)(6) Collocation.

The duty to provide, on rates, terms, and conditions that are just, reasonable and nondiscriminatory, for physical collocation of equipment necessary for interconnection or access to unbundled network elements at the premises of the local exchange carrier . . .

§ 252(d) Pricing Standards.

(1) Interconnection and network element charges.--Determinations by a State commission of the just and reasonable rate for interconnection of facilities and equipment for purposes of subsection (c)(2) of section 251, and the just and reasonable rate for network elements for purposes of subsection (c)(3) of such section--

(A) shall be--

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(i) based on the cost (determined without reference to a rate-of-return or other rate-based proceeding) of providing the interconnection or network element (whichever is applicable), and
(ii) nondiscriminatory, and
(B) may include a reasonable profit.

§ 252(f) Statements of Generally Available Terms.

(2) State commission review.

A State commission may not approve such statement unless such statement complies with subsection (d) of this section and section 251 and the regulations thereunder. Except as provided in section 253, nothing in this section shall prohibit a state commission form establishing or enforcing other requirements of State law in its review of such statement, including requiring compliance with intrastate telecommunications quality standards or requirements.

Selected descriptions in the body of 96-325, FCC Interconnection Order in CC Docket No. 96-98:

579. We believe that section 251(c)(6) generally requires that incumbent LECs permit the collocation of equipment used for interconnection or access to unbundled network elements. Although the term "necessary," read most strictly, could be interpreted to mean "indispensable," we conclude that for the purposes of section 251(c)(6) "necessary" does not mean "indispensable" but rather "used" or "useful." This interpretation is most likely to promote fair competition consistent with the purposes of the act. (We note that this view is consistent with the findings of the Colorado Commission). Thus, we read section 251(c)(6) to refer to equipment used for the purpose of interconnection or access to unbundled network elements. Even if the collocator could use other equipment to perform a similar function, the specified equipment may still be "necessary" for the interconnection or access to unbundled network elements under section 251(c)(6). We can easily imagine circumstances, for instance, in which alternative equipment would perform the same function, but with less efficiency or greater cost. A strict reading of the term "necessary" in these circumstances could allow LECs to avoid collocating the equipment of the interconnectors' choosing, thus undermining the procompetitive purposes of the 1996 Act.

580. Consistent with this interpretation, we conclude that transmission equipment, such as optical terminating equipment and multiplexers, may be collocated on LEC premises. . . . . State Commissions may designate specific additional types of equipment that may be collocated pursuant to section 251(c)(6).

581. . . . We find that section 251(c)(6) does not require collocation of equipment necessary to provide enhanced services. At this time we do not impose a general requirement that switching equipment be collocated since it does not appear that it is used

> for the actual interconnection or access to unbundled network elements.[footnote 1417] We recognize, however, that modern technology has tended to blur the line between switching equipment and multiplexing equipment, which we permit to be collocated. We expect, in situations where the functionality of a particular piece of equipment is in dispute, that state commissions will determine whether the equipment at issue is actually used for interconnection or access to unbundled elements. We also reserve the right to reexamine this issue at a later date if it appears that such action would further achievement of the 1996 Act's procompetitive goals. . . .
>
> > 1417 If switching equipment is located at the collocated space, generally the only equipment used for interconnection or access to unbundled elements is the cross-connect equipment. The switching equipment generally performs other functions.

AT&T and other parties have sought in this docket to achieve what has not yet been granted in an arbitration proceeding: the ability to collocate remote switches in Ameritech's end offices. This request goes beyond the specific requirements of the FCC's interconnection order. However, the FCC left both exemption for individual pieces of equipment and additional categories of equipment to the states and left open the possibility of collocation of switches to further the procompetitive goal of the 1996 Act. The reopenings the FCC left for itself and states under federal law provides a ready basis for a decision by this Commission based on both the Act and state law. The Wisconsin Legislature passed a similarly procompetitive piece of legislation called 1993 Wisconsin Act 297 (the Wisconsin Act). The following provisions were new under that legislation and apply directly to the collocation issue:

> 196.219(3) Prohibited Practices. A telecommunications utility may not do any of the following with respect to regulated services:
>
> (a) Refuse to interconnect within a reasonable time with another person to the same extent that the federal communications commission requires the telecommunications utility to interconnect. The public service commission may require additional interconnection based on a determination, following notice and opportunity for hearing, that additional interconnection is in the public interest and is consistent with the factors under s. 196.03(6).

So, the discretion the FCC has given the Commission can be exercised under the following statutory factors:

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196.03(6) In determining a reasonably adequate telecommunications service or a reasonable and just charge for that telecommunications service, the commission shall consider at least the following factors in determining what is reasonable and just, reasonably adequate, convenient and necessary or in the public interest:

(a) Promotion and preservation of competition consistent with ch. 133 and s. 196.219.

(b) Promotion of consumer choice.

(c) Impact on the quality of life for the public, including privacy considerations.

(d) Promotion of universal service.

(e) Promotion of economic development, including telecommunications infrastructure deployment.

(f) Promotion of efficiency and productivity.

(g) Promotion of telecommunications services in geographical areas with diverse income or racial populations.

Staff Witness Richter testified that in addition to a legal analysis, the Commission should apply a public policy analysis to the issue of collocation, including the following four criteria:

- relative benefit/harm to incumbents and new entrants
- economic efficiencies
- technological efficiencies
- regulatory objectives

The Commission presents a legal and public policy analysis below and concludes that Ameritech should be required to accommodate some collocation of RSMs.

Using the six factors of s. 196.03(6), stats., and the public interest as guidelines, the Commission is able to provide a more comprehensive decision on this issue in this docket than it has been able to exercise in other proceedings. For instance, a commission ruling regarding a very large potential provider like AT&T should not be considered conclusive on of the issue for providers of all types and sizes. Further, even a potentially large competitor will not likely be

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able to enter the local market with a ubiquitous overwhelming local market share, and thus at some central offices may physically configure its network more like that of a small provider. Even the arbitration panel decision cited by Ameritech witness Edwards at hearing acknowledges the efficiency of RSM collocation for market entry. The decision relies on the availability of entry options to deny AT&T's request. The only harm cited in the excerpt quoted in testimony is a potential to use up collocated space. On cross-examination, Edwards added that he had concerns for powering requirements and the central office environment. The concerns he expresses regarding RSMs could be equally valid for other equipment that is allowed for collocation, and therefore cannot be taken as completely counterbalancing the positive aspects of RSM collocation.

With regard to the criteria in s. 196.03(6), stats., above, Witness Sherry for AT&T provides considerable testimony on the economic and technological efficiencies gained by collocation of RSMs. Such collocation avoids unnecessary transport of intra-office calls and allows remote testing of loops served with digital loop carrier systems. Witness Easter of US Exchange added that RSM collocation reduces a new entrant's cost of rapid service deployment using unbundled elements. Prominent among his points is avoidance of the cost of establishing a separate point of presence near each Ameritech central office.

RSM collocation generally allows parity of interconnection with Ameritech for service to its loops. While such parity is not required per se under the Act for collocation, such a discriminatory interconnection policy vis a vis Ameritech's interconnection of its own network components may be sufficient cause for Commission investigation and remedial action under

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state law (s. 196.219(h), Wis. Stats.) This proceeding, with hearing, suffices as such an investigation.

The evidence presented in the record leads the Commission to believe that there are competitive benefits to RSM collocation which would produce positive results for factors (a) promotion of competition, (b) more rapidly introducing customer choice, (e) promotion of infrastructure deployment, (f) introduction of efficiency and productivity in telecommunications networks and (g) promotion of competition in more diverse locations by lowering the cost of entry. Further, the Commission is not aware of any reasons why items (c) impact on the quality of life for the public, and (d) promotion of universal service, would be negatively impacted by RSM collocation in a manner or to a degree separately identifiable from the general tension of competition with quality of life and universal service issues.

The Commission finds no conclusive federal prohibition of RSM collocation or a requirement of collocation of RSMs. Further, there is no prohibition of state discretion regarding this issue, and the Commission is not barred from application of state law. State law provides the underpinnings for the conclusion, based on evidence at hearing that RSM collocation will overall provide a public benefit. This benefit derives fundamentally from economic and technological efficiencies that are achieved to promote market entry. Therefore, Ameritech's concern for availability of collocation space may be mitigated by limiting the RSM collocation to RSMs of small capacity. This would force entrants with significant market share in the central office service area to vacate central office space to establish nearby points of presence, thus making the space available to other entrants.

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Ameritech shall allow collocation of RSMs of a capacity suited to market entry. Reasonable limits on collocated RSM capacity will be allowed in the tariffs, where such limits will not constrain market entry, are supportable by space, power or CO environmental limitations, and allow a reasonable accommodation of market share growth.

**6. Provider of exchange access service**

Access revenues constitute a significant portion of a local exchange carrier's total revenues. If competitors are unable to provide access services, and therefore do not have an opportunity to tap into this revenue stream, the competitor is unlikely to be able to succeed (see Exhibit 45.) In the hearings, parties agreed on two basic access charge issues. The first was that if a toll call travels over Ameritech's access network, and terminates on the line card (port) serving an Ameritech customer, Ameritech charges access for that call. The second was that if a toll call travels over a CLEC's access network, and terminates on the line card (port) serving a customer of that CLEC, the CLEC charges access for that call. Parties do not agree on who gets the access charges for toll calls which travel over one company's access network, and terminate on the line card serving another provider's customer. These situations are shown in the following diagram.

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